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HIGHLY LUMINESCENT COLOR-SELECTIVE MATERIALS

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Abstract of the Invention

A coated nanocrystal capable of light emission includes a substantially monodisperse nanoparticle selected from the group consisting of CdX, where $x = S, Se, Te$ and an overcoating of ZnY, where $Y = S, Se$, uniformly deposited thereon, said coated nanoparticle characterized in that when irradiated the particles exhibit photoluminescence in a narrow spectral range of no greater than about 60 nm, and most preferably 40 nm, at full width half max (FWHM). The particle size of the nanocrystallite core is in the range of about 20 Å to about 125 Å, with a deviation of less than 10% in the core. The coated nanocrystal exhibits photoluminescence having quantum yields of greater than 30%.

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